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<213> Hepatitis C virus

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<212> DNA
<213> Hepatitis C virus

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<210> 13
<211> 7987
<212> DNA
<213> Hepatitis C virus

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<210> 14
<211> 400
<212> PRT
<213> Hepatitis C virus

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Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro
      20                      25                      30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
      35                      40                      45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
      50                      55                      60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
      65                      70                      75                      80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
      85                      90                      95

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
      100                      105                      110

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
      115                      120                      125

Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val
      130                      135                      140

Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg

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Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
 50 55 60
 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
 65 70 75 80
 Gln Asp Leu Val Gly Trp Arg Ala Pro Pro Gly Ala Arg Ser Leu Thr
 85 90 95
 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
 100 105 110
 Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
 115 120 125
 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
 130 135 140
 Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys
 145 150 155 160
 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met
 165 170 175
 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
 180 185 190
 Ala Val Pro Gln Thr Phe Gln Val Ala His Leu His Ala Pro Thr Gly
 195 200 205
 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr
 210 215 220
 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly
 225 230 235 240
 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly
 245 250 255
 Val Arg Thr Ile Thr Thr Gly Ala Pro Ile Thr Tyr Ser Thr Tyr Gly
 260 265 270
 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile
 275 280 285
 Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile
 290 295 300
 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val
 305 310 315 320
 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn
 325 330 335
 Ile Glu Glu Val Ala Leu Ser Ser Thr Gly Glu Ile Pro Phe Tyr Gly
 340 345 350
 Lys Ala Ile Pro Ile Glu Thr Ile Lys Gly Gly Arg His Leu Ile Phe
 355 360 365
 Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly
 370 375 380
 Leu Gly Leu Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val
 385 390 395 400

Ile Pro Thr Ser Gly Asp Val Ile Val Val Ala Thr Asp Ala Leu Met
 405 410 415
 Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys
 420 425 430
 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu
 435 440 445
 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly
 450 455 460
 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly
 465 470 , 475 480
 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr
 485 490 495
 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val
 500 505 510
 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp
 515 520 525
 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp
 530 535 540
 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr
 545 550 555 560
 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro
 565 570 575
 Pro Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr
 580 585 590
 Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn
 595 600 605
 Glu Val Thr Thr Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met
 610 615 620
 Ser Ala Asp Leu Glu Val Val Thr Ser Thr Trp Val Leu Val Gly Gly
 625 630 635 640
 Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Thr Thr Gly Ser Val Val
 645 650 655
 Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp
 660 665 670
 Arg Glu Val Leu Tyr Arg Glu Phe Asp Glu Met Glu Glu Cys Ala Ser
 675 680 685
 His Leu Pro Tyr Ile Glu Gln Gly Met Gln Leu Ala Glu Gln Phe Lys
 690 695 700
 Gln Lys Ala Ile Gly Leu Leu Gln Thr Ala Thr Lys Gln Ala Glu Ala
 705 710 715 720
 Ala Ala Pro Val Val Glu Ser Lys Trp Arg Thr Leu Glu Ala Phe Trp
 725 730 735
 Ala Lys His Met Trp Asn Phe Ile Ser Gly Ile Gln Tyr Leu Ala Gly
 740 745 750

Leu Ser Thr Leu Pro Gly Asn Pro Ala Ile Ala Ser Leu Met Ala Phe
 755 760 765
 Thr Ala Ser Ile Thr Ser Pro Leu Thr Thr Gln His Thr Leu Leu Phe
 770 775 780
 Asn Ile Leu Gly Gly Trp Val Ala Ala Gln Leu Ala Pro Pro Ser Ala
 785 790 795 800
 Ala Ser Ala Phe Val Gly Ala Gly Ile Ala Gly Ala Ala Val Gly Ser
 805 810 815
 Ile Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala
 820 825 830
 Gly Val Ala Gly Ala Leu Val Ala Phe Lys Val Met Ser Gly Glu Met
 835 840 845
 Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro
 850 855 860
 Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His
 865 870 875 880
 Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala
 885 890 895
 Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro Glu
 900 905 910
 Ser Asp Ala Ala Ala Arg Val Thr Gln Ile Leu Ser Ser Leu Thr Ile
 915 920 925
 Thr Gln Leu Leu Lys Arg Leu His Gln Trp Ile Asn Glu Asp Cys Ser
 930 935 940
 Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys
 945 950 955 960
 Thr Val Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro
 965 970 975
 Arg Leu Pro Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly
 980 985 990
 Val Trp Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala
 995 1000 1005
 Gln Ile Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro
 1010 1015 1020
 Arg Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr
 1025 1030 1035 1040
 Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala
 1045 1050 1055
 Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly
 1060 1065 1070
 Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro
 1075 1080 1085
 Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg
 1090 1095 1100

Leu His Arg Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val
 1105 1110 1115 1120
 Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro
 1125 1130 1135
 Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp
 1140 1145 1150
 Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly
 1155 1160 1165
 Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ile Gln Leu Ser Ala Pro
 1170 1175 1180
 Ser Leu Lys Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp
 1185 1190 1195 1200
 Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile
 1205 1210 1215
 Thr Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu
 1220 1225 1230
 Pro Leu Gln Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu
 1235 1240 1245
 Ile Leu Arg Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala
 1250 1255 1260
 Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp
 1265 1270 1275 1280
 Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala
 1285 1290 1295
 Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu
 1300 1305 1310
 Ser Thr Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly
 1315 1320 1325
 Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro
 1330 1335 1340
 Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr
 1345 1350 1355 1360
 Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser
 1365 1370 1375
 Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val
 1380 1385 1390
 Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys
 1395 1400 1405
 Ala Ala Glu Glu Thr Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu
 1410 1415 1420
 Leu Arg His His Asn Leu Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser
 1425 1430 1435 1440
 Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp
 1445 1450 1455

His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val
 1460 1465 1470
 Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro
 1475 1480 1485
 His Ser Ala Arg Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn
 1490 1495 1500
 Leu Ser Ser Lys Ala Val Asn His Ile Arg Ser Val Trp Lys Asp Leu
 1505 1510 1515 1520
 Leu Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn
 1525 1530 1535
 Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg
 1540 1545 1550
 Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala
 1555 1560 1565
 Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser
 1570 1575 1580
 Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn
 1585 1590 1595 1600
 Ala Trp Lys Ala Lys Lys Cys Pro Met Gly Phe Ala Tyr Asp Thr Arg
 1605 1610 1615
 Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser
 1620 1625 1630
 Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg
 1635 1640 1645
 Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys
 1650 1655 1660
 Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr
 1665 1670 1675 1680
 Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala
 1685 1690 1695
 Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp
 1700 1705 1710
 Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Glu Ala
 1715 1720 1725
 Ser Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro
 1730 1735 1740
 Gly Asp Pro Pro Lys Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys
 1745 1750 1755 1760
 Ser Ser Asn Val Ser Val Ala His Asp Ala Ser Gly Lys Arg Val Tyr
 1765 1770 1775
 Tyr Leu Thr Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu
 1780 1785 1790
 Thr Ala Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met
 1795 1800 1805

Tyr Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe
 1810 1815 1820
 Ser Ile Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln
 1825 1830 1835 1840
 Ile Tyr Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile
 1845 1850 1855
 Ile Gln Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser
 1860 1865 1870
 Pro Gly Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val
 1875 1880 1885
 Pro Pro Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg
 1890 1895 1900
 Leu Leu Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe
 1905 1910 1915 1920
 Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala
 1925 1930 1935
 Ser Gln Leu Asp Leu Ser Ser Trp Phe Val Ala Gly Tyr Ser Gly Gly
 1940 1945 1950
 Asp Ile Tyr His Ser Leu Ser Arg Ala Arg Pro Arg Trp Phe Met Trp
 1955 1960 1965
 Cys Leu Leu Leu Leu Ser Val Gly Val Gly Ile Tyr Leu Leu Pro Asn
 1970 1975 1980
 Arg
 1985

<210> 16
 <211> 447
 <212> PRT
 <213> Hepatitis C virus

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 Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
 35 40 45
 Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
 50 55 60
 Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
 65 70 75 80
 Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
 85 90 95
 Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
 100 105 110
 Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
 115 120 125

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<210> 17
<211> 1985
<212> PRT
<213> Hepatitis C virus
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<400> 17

Met Ala Pro Ile Thr Ala Tyr Ser Gln Gln Thr Arg Gly Leu Leu Gly
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 Glu Val Gln Val Val Ser Thr Ala Thr Gln Ser Phe Leu Ala Thr Cys
 35 40 45
 Val Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Ser Lys Thr
 50 55 60
 Leu Ala Gly Pro Lys Gly Pro Ile Thr Gln Met Tyr Thr Asn Val Asp
 65 70 75 80
 Gln Asp Leu Val Gly Trp Gln Ala Pro Pro Gly Ala Arg Ser Leu Thr
 85 90 95
 Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
 100 105 110
 Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
 115 120 125
 Ser Pro Arg Pro Val Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
 130 135 140
 Leu Cys Pro Ser Gly His Ala Val Gly Ile Phe Arg Ala Ala Val Cys
 145 150 155 160
 Thr Arg Gly Val Ala Lys Ala Val Asp Phe Val Pro Val Glu Ser Met
 165 170 175
 Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
 180 185 190
 Ala Val Pro Gln Thr Phe Gln Val Ala His Leu His Ala Pro Thr Gly
 195 200 205
 Ser Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr
 210 215 220
 Lys Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly
 225 230 235 240
 Ala Tyr Met Ser Lys Ala His Gly Ile Asp Pro Asn Ile Arg Thr Gly
 245 250 255
 Val Arg Thr Ile Thr Thr Gly Ala Pro Ile Thr Tyr Ser Thr Tyr Gly
 260 265 270
 Lys Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile
 275 280 285
 Ile Cys Asp Glu Cys His Ser Thr Asp Ser Thr Thr Ile Leu Gly Ile
 290 295 300
 Gly Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val
 305 310 315 320
 Leu Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn
 325 330 335

Ile Glu Glu Val Ala Leu Ser Ser Thr Gly Glu Ile Pro Phe Tyr Gly
 340 345 350
 Lys Ala Ile Pro Ile Glu Thr Ile Lys Gly Gly Arg His Leu Ile Phe
 355 360 365
 Cys His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Ser Gly
 370 375 380
 Leu Gly Leu Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val
 385 390 395 400
 Ile Pro Thr Ser Gly Asp Val Ile Val Val Ala Thr Asp Ala Leu Met
 405 410 415
 Thr Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys
 420 425 430
 Val Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu
 435 440 445
 Thr Thr Thr Val Pro Gln Asp Ala Val Ser Arg Ser Gln Arg Arg Gly
 450 455 460
 Arg Thr Gly Arg Gly Arg Met Gly Ile Tyr Arg Phe Val Thr Pro Gly
 465 470 475 480
 Glu Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr
 485 490 495
 Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Ser Val
 500 505 510
 Arg Leu Arg Ala Tyr Leu Asn Thr Pro Gly Leu Pro Val Cys Gln Asp
 515 520 525
 His Leu Glu Phe Trp Glu Ser Val Phe Thr Gly Leu Thr His Ile Asp
 530 535 540
 Ala His Phe Leu Ser Gln Thr Lys Gln Ala Gly Asp Asn Phe Pro Tyr
 545 550 555 560
 Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro
 565 570 575
 Pro Ser Trp Asp Gln Met Trp Glu Cys Leu Ile Arg Leu Lys Pro Thr
 580 585 590
 Leu His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn
 595 600 605
 Glu Val Thr Thr Thr His Pro Ile Thr Lys Tyr Ile Met Ala Cys Met
 610 615 620
 Ser Ala Asp Leu Glu Val Val Thr Ser Thr Trp Val Leu Val Gly Gly
 625 630 635 640
 Val Leu Ala Ala Leu Ala Ala Tyr Cys Leu Thr Thr Gly Ser Val Val
 645 650 655
 Ile Val Gly Arg Ile Ile Leu Ser Gly Lys Pro Ala Ile Ile Pro Asp
 660 665 670
 Arg Glu Val Leu Tyr Arg Glu Phe Asp Glu Met Glu Glu Cys Ala Ser
 675 680 685

His Leu Pro Tyr Ile Glu Gln Gly Met Gln Leu Ala Glu Gln Phe Lys
 690 695 700
 Gln Lys Ala Ile Gly Leu Leu Gln Thr Ala Thr Lys Gln Ala Glu Ala
 705 710 715 720
 Ala Ala Pro Val Val Glu Ser Lys Trp Arg Thr Leu Glu Ala Phe Trp
 725 730 735
 Ala Lys His Met Trp Asn Phe Ile Ser Gly Ile Gln Tyr Leu Ala Gly
 740 745 750
 Leu Ser Thr Leu Pro Gly Asn Pro Ala Ile Ala Ser Leu Met Ala Phe
 755 760 765
 Thr Ala Ser Ile Thr Ser Pro Leu Thr Thr Gln His Thr Leu Leu Phe
 770 775 780
 Asn Ile Leu Gly Gly Trp Val Ala Ala Gln Leu Ala Pro Pro Ser Ala
 785 790 795 800
 Ala Ser Ala Phe Val Gly Ala Gly Ile Ala Gly Ala Ala Val Gly Ser
 805 810 815
 Ile Gly Leu Gly Lys Val Leu Val Asp Ile Leu Ala Gly Tyr Gly Ala
 820 825 830
 Gly Val Ala Gly Ala Leu Val Ala Phe Lys Val Met Ser Gly Glu Met
 835 840 845
 Pro Ser Thr Glu Asp Leu Val Asn Leu Leu Pro Ala Ile Leu Ser Pro
 850 855 860
 Gly Ala Leu Val Val Gly Val Val Cys Ala Ala Ile Leu Arg Arg His
 865 870 875 880
 Val Gly Pro Gly Glu Gly Ala Val Gln Trp Met Asn Arg Leu Ile Ala
 885 890 895
 Phe Ala Ser Arg Gly Asn His Val Ser Pro Thr His Tyr Val Pro Glu
 900 905 910
 Ser Asp Ala Ala Ala Arg Val Thr Gln Ile Leu Ser Gly Leu Thr Ile
 915 920 925
 Thr Gln Leu Leu Lys Arg Leu His Gln Trp Ile Asn Glu Asp Cys Ser
 930 935 940
 Thr Pro Cys Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys
 945 950 955 960
 Thr Val Leu Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro
 965 970 975
 Arg Leu Pro Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly
 980 985 990
 Val Trp Arg Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala
 995 1000 1005
 Gln Ile Thr Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro
 1010 1015 1020
 Arg Thr Cys Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr
 1025 1030 1035 1040

Thr Thr Gly Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala
 1045 1050 1055
 Leu Trp Arg Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly
 1060 1065 1070
 Asp Phe His Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro
 1075 1080 1085
 Cys Gln Val Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg
 1090 1095 1100
 Leu His Arg Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val
 1105 1110 1115 1120
 Thr Phe Leu Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro
 1125 1130 1135
 Cys Glu Pro Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp
 1140 1145 1150
 Pro Ser His Ile Thr Ala Glu Thr Ala Lys Arg Gly Leu Ala Arg Gly
 1155 1160 1165
 Ser Pro Pro Ser Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro
 1170 1175 1180
 Ser Leu Lys Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp
 1185 1190 1195 1200
 Leu Ile Glu Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile
 1205 1210 1215
 Thr Arg Val Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu
 1220 1225 1230
 Pro Leu Gln Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu
 1235 1240 1245
 Ile Leu Arg Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala
 1250 1255 1260
 Arg Pro Asp Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp
 1265 1270 1275 1280
 Tyr Val Pro Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala
 1285 1290 1295
 Pro Pro Ile Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu
 1300 1305 1310
 Ser Thr Val Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly
 1315 1320 1325
 Ser Ser Glu Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro
 1330 1335 1340
 Asp Gln Pro Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr
 1345 1350 1355 1360
 Ser Ser Met Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser
 1365 1370 1375
 Asp Gly Ser Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val
 1380 1385 1390

Cys Cys Ser Met Ser Tyr Thr Trp Thr Gly Ala Leu Ile Thr Pro Cys
 1395 1400 1405
 Ala Ala Glu Glu Thr Lys Leu Pro Ile Asn Ala Leu Ser Asn Ser Leu
 1410 1415 1420
 Leu Arg His His Asn Leu Val Tyr Ala Thr Thr Ser Arg Ser Ala Ser
 1425 1430 1435 1440
 Leu Arg Gln Lys Lys Val Thr Phe Asp Arg Leu Gln Val Leu Asp Asp
 1445 1450 1455
 His Tyr Arg Asp Val Leu Lys Glu Met Lys Ala Lys Ala Ser Thr Val
 1460 1465 1470
 Lys Ala Lys Leu Leu Ser Val Glu Glu Ala Cys Lys Leu Thr Pro Pro
 1475 1480 1485
 His Ser Ala Arg Ser Lys Phe Gly Tyr Gly Ala Lys Asp Val Arg Asn
 1490 1495 1500
 Leu Ser Ser Lys Ala Val Asn His Ile Arg Ser Val Trp Lys Asp Leu
 1505 1510 1515 1520
 Leu Glu Asp Thr Glu Thr Pro Ile Asp Thr Thr Ile Met Ala Lys Asn
 1525 1530 1535
 Glu Val Phe Cys Val Gln Pro Glu Lys Gly Gly Arg Lys Pro Ala Arg
 1540 1545 1550
 Leu Ile Val Phe Pro Asp Leu Gly Val Arg Val Cys Glu Lys Met Ala
 1555 1560 1565
 Leu Tyr Asp Val Val Ser Thr Leu Pro Gln Ala Val Met Gly Ser Ser
 1570 1575 1580
 Tyr Gly Phe Gln Tyr Ser Pro Gly Gln Arg Val Glu Phe Leu Val Asn
 1585 1590 1595 1600
 Ala Trp Lys Ala Lys Lys Cys Pro Met Gly Phe Ala Tyr Asp Thr Arg
 1605 1610 1615
 Cys Phe Asp Ser Thr Val Thr Glu Asn Asp Ile Arg Val Glu Glu Ser
 1620 1625 1630
 Ile Tyr Gln Cys Cys Asp Leu Ala Pro Glu Ala Arg Gln Ala Ile Arg
 1635 1640 1645
 Ser Leu Thr Glu Arg Leu Tyr Ile Gly Gly Pro Leu Thr Asn Ser Lys
 1650 1655 1660
 Gly Gln Asn Cys Gly Tyr Arg Arg Cys Arg Ala Ser Gly Val Leu Thr
 1665 1670 1675 1680
 Thr Ser Cys Gly Asn Thr Leu Thr Cys Tyr Leu Lys Ala Ala Ala Ala
 1685 1690 1695
 Cys Arg Ala Ala Lys Leu Gln Asp Cys Thr Met Leu Val Cys Gly Asp
 1700 1705 1710
 Asp Leu Val Val Ile Cys Glu Ser Ala Gly Thr Gln Glu Asp Glu Ala
 1715 1720 1725
 Ser Leu Arg Ala Phe Thr Glu Ala Met Thr Arg Tyr Ser Ala Pro Pro
 1730 1735 1740

Gly Asp Pro Pro Lys Pro Glu Tyr Asp Leu Glu Leu Ile Thr Ser Cys
 1745 1750 1755 1760
 Ser Ser Asn Val Ser Val Ala His Asp Ala Ser Gly Lys Arg Val Tyr
 1765 1770 1775
 Tyr Leu Thr Arg Asp Pro Thr Thr Pro Leu Ala Arg Ala Ala Trp Glu
 1780 1785 1790
 Thr Ala Arg His Thr Pro Val Asn Ser Trp Leu Gly Asn Ile Ile Met
 1795 1800 1805
 Tyr Ala Pro Thr Leu Trp Ala Arg Met Ile Leu Met Thr His Phe Phe
 1810 1815 1820
 Ser Ile Leu Leu Ala Gln Glu Gln Leu Glu Lys Ala Leu Asp Cys Gln
 1825 1830 1835 1840
 Ile Tyr Gly Ala Cys Tyr Ser Ile Glu Pro Leu Asp Leu Pro Gln Ile
 1845 1850 1855
 Ile Gln Arg Leu His Gly Leu Ser Ala Phe Ser Leu His Ser Tyr Ser
 1860 1865 1870
 Pro Gly Glu Ile Asn Arg Val Ala Ser Cys Leu Arg Lys Leu Gly Val
 1875 1880 1885
 Pro Pro Leu Arg Val Trp Arg His Arg Ala Arg Ser Val Arg Ala Arg
 1890 1895 1900
 Leu Leu Ser Gln Gly Gly Arg Ala Ala Thr Cys Gly Lys Tyr Leu Phe
 1905 1910 1915 1920
 Asn Trp Ala Val Arg Thr Lys Leu Lys Leu Thr Pro Ile Pro Ala Ala
 1925 1930 1935
 Ser Gln Leu Asp Leu Ser Ser Trp Phe Val Ala Gly Tyr Ser Gly Gly
 1940 1945 1950
 Asp Ile Tyr His Ser Leu Ser Arg Ala Arg Pro Arg Trp Phe Met Trp
 1955 1960 1965
 Cys Leu Leu Leu Leu Ser Val Gly Val Gly Ile Tyr Leu Leu Pro Asn
 1970 1975 1980

Arg
 1985

<210> 18
 <211> 447
 <212> PRT
 <213> Hepatitis C virus

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 Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
 35 40 45
 Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
 50 55 60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
 65 70 75 80
 Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
 85 90 95
 Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
 100 105 110
 Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
 115 120 125
 Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val
 130 135 140
 Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg
 145 150 155 160
 Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu
 165 170 175
 Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro
 180 185 190
 Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His
 195 200 205
 Ile Thr Ala Glu Thr Ala Lys Arg Gly Leu Ala Arg Gly Ser Pro Pro
 210 215 220
 Ser Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys
 225 230 235 240
 Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu
 245 250 255
 Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val
 260 265 270
 Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln
 275 280 285
 Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg
 290 295 300
 Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp
 305 310 315 320
 Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro
 325 330 335
 Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile
 340 345 350
 Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val
 355 360 365
 Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu
 370 375 380
 Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro
 385 390 395 400
 Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met
 405 410 415

Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser
 420 425 430

Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys Cys
 435 440 445

<210> 19

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 19

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu
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Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro
 20 25 30

Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
 35 40 45

Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
 50 55 60

Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
 65 70 75 80

Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
 85 90 95

Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
 100 105 110

Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
 115 120 125

Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val
 130 135 140

Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg
 145 150 155 160

Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu
 165 170 175

Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro
 180 185 190

Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His
 195 200 205

Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly Ser Pro Pro
 210 215 220

Ser Leu Ser Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys
 225 230 235 240

Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu
 245 250 255

Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val
 260 265 270


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<210> 20
<211> 447
<212> PRT
<213> Hepatitis C virus

<400> 20
Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu
  1                               5                      10              15
Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro
      20                                25                  30
Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
      35                              40                   45
Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
      50                             55                     60
Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
      65                            70                    75                80
Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
      85                          90                 95
Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
      100                       105                  110
Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
      115                      120                   125
Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val
      130                     135                   140
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Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg
 145 150 155 160
 Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu
 165 170 175
 Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro
 180 185 190
 Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His
 195 200 205
 Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly Ser Pro Pro
 210 215 220
 Cys Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys
 225 230 235 240
 Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu
 245 250 255
 Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val
 260 265 270
 Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln
 275 280 285
 Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg
 290 295 300
 Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp
 305 310 315 320
 Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro
 325 330 335
 Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile
 340 345 350
 Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val
 355 360 365
 Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu
 370 375 380
 Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro
 385 390 395 400
 Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met
 405 410 415
 Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser
 420 425 430
 Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys Cys
 435 440 445

<210> 21

<211> 447

<212> PRT

<213> Hepatitis C virus

<400> 21

Ser Gly Ser Trp Leu Arg Asp Val Trp Asp Trp Ile Cys Thr Val Leu
 1 5 10 15
 Thr Asp Phe Lys Thr Trp Leu Gln Ser Lys Leu Leu Pro Arg Leu Pro
 20 25 30
 Gly Val Pro Phe Phe Ser Cys Gln Arg Gly Tyr Lys Gly Val Trp Arg
 35 40 45
 Gly Asp Gly Ile Met Gln Thr Thr Cys Pro Cys Gly Ala Gln Ile Thr
 50 55 60
 Gly His Val Lys Asn Gly Ser Met Arg Ile Val Gly Pro Arg Thr Cys
 65 70 75 80
 Ser Asn Thr Trp His Gly Thr Phe Pro Ile Asn Ala Tyr Thr Thr Gly
 85 90 95
 Pro Cys Thr Pro Ser Pro Ala Pro Asn Tyr Ser Arg Ala Leu Trp Arg
 100 105 110
 Val Ala Ala Glu Glu Tyr Val Glu Val Thr Arg Val Gly Asp Phe His
 115 120 125
 Tyr Val Thr Gly Met Thr Thr Asp Asn Val Lys Cys Pro Cys Gln Val
 130 135 140
 Pro Ala Pro Glu Phe Phe Thr Glu Val Asp Gly Val Arg Leu His Arg
 145 150 155 160
 Tyr Ala Pro Ala Cys Lys Pro Leu Leu Arg Glu Glu Val Thr Phe Leu
 165 170 175
 Val Gly Leu Asn Gln Tyr Leu Val Gly Ser Gln Leu Pro Cys Glu Pro
 180 185 190
 Glu Pro Asp Val Ala Val Leu Thr Ser Met Leu Thr Asp Pro Ser His
 195 200 205
 Ile Thr Ala Glu Thr Ala Lys Arg Arg Leu Ala Arg Gly Ser Pro Pro
 210 215 220
 Pro Leu Ala Ser Ser Ser Ala Ser Gln Leu Ser Ala Pro Ser Leu Lys
 225 230 235 240
 Ala Thr Cys Thr Thr Arg His Asp Ser Pro Asp Ala Asp Leu Ile Glu
 245 250 255
 Ala Asn Leu Leu Trp Arg Gln Glu Met Gly Gly Asn Ile Thr Arg Val
 260 265 270
 Glu Ser Glu Asn Lys Val Val Ile Leu Asp Ser Phe Glu Pro Leu Gln
 275 280 285
 Ala Glu Glu Asp Glu Arg Glu Val Ser Val Pro Ala Glu Ile Leu Arg
 290 295 300
 Arg Ser Arg Lys Phe Pro Arg Ala Met Pro Ile Trp Ala Arg Pro Asp
 305 310 315 320
 Tyr Asn Pro Pro Leu Leu Glu Ser Trp Lys Asp Pro Asp Tyr Val Pro
 325 330 335
 Pro Val Val His Gly Cys Pro Leu Pro Pro Ala Lys Ala Pro Pro Ile
 340 345 350

Pro Pro Pro Arg Arg Lys Arg Thr Val Val Leu Ser Glu Ser Thr Val
 355 360 365
 Ser Ser Ala Leu Ala Glu Leu Ala Thr Lys Thr Phe Gly Ser Ser Glu
 370 375 380
 Ser Ser Ala Val Asp Ser Gly Thr Ala Thr Ala Ser Pro Asp Gln Pro
 385 390 395 400
 Ser Asp Asp Gly Asp Ala Gly Ser Asp Val Glu Ser Tyr Ser Ser Met
 405 410 415
 Pro Pro Leu Glu Gly Glu Pro Gly Asp Pro Asp Leu Ser Asp Gly Ser
 420 425 430
 Trp Ser Thr Val Ser Glu Glu Ala Ser Glu Asp Val Val Cys-Cys
 435 440 445